

### SUPPORT FOR THE AMENDMENTS

Claims 1, 6-9, 11, 15-17, 20, 21, 25-29, 31, 34, 42, 46-50, 52, 58-61, 64, 66, 70, 72, and 73 have been amended.

Claims 1, 6-9, 11, 21, 26-29, 31, 42, 47-50, 52, 70 and 72 have been amended in the substituents  $R^{10}$ - $R^{15}$ , where appropriate, by replacing commas by semi-colons to separate the possible radicals.

Claims 1, 21, 25, 42, 46, 72 and 73 have been amended to delete the phrase "may be bonded via an optionally at least mono substituted alkylene group and/or" when W represents a cycloaliphatic radical.

Claims 1, 15-17, 20, 34, 42, 58-61, 64 and 66 have been amended to remove the expression "benzoxazinone-derived sulfonamide".

Claims 1 and 42 have been amended in substituent W by including the article "a" before the first expression "cycloaliphatic radical".

No new matter has been added by the present amendment.

### REMARKS

Claims 1-18, 20-56, 58-61, and 64-75 are pending in the present application.

With respect to the Examiner's request of duty of disclosure, Applicants respectfully state that it is believed that all the relevant prior art has already been made of record.

The rejection of Claims 1-13, 18, 42-56, 61, 67, and 69-73 under 35 U.S.C. 112, second paragraph, is obviated by amendment.

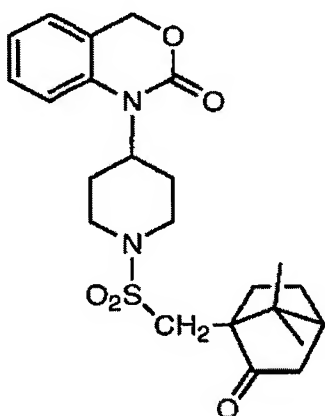
Applicants believe that the claims as written are clear and the artisan would readily appreciate the scope and meaning of the claims since the expression "at least mono-substituted aryl- or heteroaryl radical" does not refer to a possible radical to be condensed to R<sup>10</sup> but to R<sup>10</sup> in itself. In other words, R<sup>10</sup> represents hydrogen, an aliphatic radical, a cycloaliphatic radical, or an aryl- or heteroaryl radical, wherein each of these radicals has certain characteristics (e.g. the cycloaliphatic, aryl or heteroaryl radical may be condensed with an optionally at least mono-substituted mono- or polycyclic ring-system). The same is true for each of R<sup>11-15</sup>. Nevertheless, solely to expedite the prosecution, claims 1, 6-9, 11, 21, 26-29, 31, 42, 47-50, 52, 70 and 72 have been amended in the substituents R<sup>10</sup>-R<sup>15</sup>, where appropriate, by replacing commas by semi-colons so that the possible radicals for each substituent are clearly identified.

Further, Claims 1 and 42 have been amended in substituent W by including the article "a" before the first expression "cycloaliphatic radical".

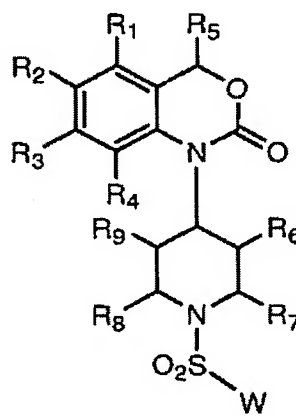
Applicants submit that the claims comply with 35 U.S.C. §112, and withdrawal of this ground of rejection is requested.

The rejections of Claims 1, 42-45, 47-55, 61, 72 and 73 under 35 U.S.C. §103(a) over Bock et al are respectfully traversed.

In making this rejection, the Examiner gain cites the compound of Example 10 disclosed by Bock et al at column 30. The Examiner alleges that the claimed invention is obvious based on the analogy ("homology") between a compound of formula (I) in the present application wherein W is a cycloaliphatic radical having a "ethylene" spacer and the example 10 in Bock wherein such spacer is a "methylene" moiety. The structures are as follows:



Example 10 in Bock et al.



Formula (I) in the application

Applicants make no statement with respect to the propriety of the Examiner's allegations and in no way acquiesce to the same and/or the conclusion of obviousness. Solely to expedite examination of this application, as well as previously made for claim 70, applicants have amended claims 1, 21, 42, 46, 72 and 73 to delete the phrase "may be bonded via an optionally at least mono substituted alkylene group and/or" when W represents a cycloaliphatic radical.

Accordingly, Applicants submit that this rejection over Bock et al is moot because this amendment makes it mandatory that when W is a cycloaliphatic radical,

it is directly bonded to SO<sub>2</sub>, i.e. there would not be a spacer. Consequently, there would not be "homology" between the claimed invention and Bock et al.

Further, Applicants submit that recent case law supports the non-obviousness of the claimed invention. Specifically, the Court of Appeals for the Federal Circuit recent held in *Takeda Chemical Industries Ltd. v. Alphapharm Pty. Ltd.*, 83 USPQ2d 1169 (Fed. Cir. 2007) that in order to find a *prima facie* case of unpatentability, a showing that the "prior art would have suggested making the specific molecular modifications necessary to achieve the claimed invention" was also required (*Takeda* at 1174, citing *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990); *In re Grabiak*, 769 F.2d 729, 226 USPQ 870 (Fed. Cir. 1985); *In re Lalu*, 747 F.2d 703, 223 USPQ 1257 (Fed. Cir. 1984)). Indeed, the *Takeda* Court further held that "in cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish *prima facie* obviousness of a new claimed compound." (*Takeda* at 1174) Since Bock et al fails to suggest making the specific molecular modifications necessary to achieve the claimed invention, the claimed invention would not be obvious.

In this case, the Examiner cites the compound of example 10 in Bock; however, among the compounds disclosed in Bock, the compound of example 10 is only one compound out of some 277 exemplified compounds. Further, its activity value is not disclosed (please see table appearing in Example 278 at column 253) and Bock does not teach or suggest that the compound of example 10 has a superior or even reasonable property. Thus, there is no reasonable basis to conclude that the skilled artisan would have selected the example 10 in Bock, much

less recognized the specific molecular modification necessary to achieve the claimed invention based on the disclosure of Bock.

The Examiner is reminded that for a claimed invention to be obvious, the possible modifications of the prior art must be finite. See, *Rolls-Royce PLC v. United Technologies Corp.*, 95 USPQ2d 1097 (Fed. Cir. 2010). As stated by the Federal Circuit:

***To determine that an invention would have been obvious*** to try on the basis of the record before the time of invention, ***this court has clarified***, with respect to inventions requiring selection of a species from a disclosed genus, ***that the possible approaches and selection to solve the problem must be*** “known and finite.” See *Abbott*, 544 F.3d at 1351 (holding as conditions in which “obvious to try” may negate patentability, “the problem is known, the possible approaches to solving the problem are known and finite, and the solution is predictable through use of a known option”). . . . In this case, the broad selection of choices for further investigation available to a person of ordinary skill included any degree of sweep. See *Takeda*, 492 F.3d at 1359 (holding the invention not obvious to try because the prior art disclosed a broad selection of compounds that an ordinarily skilled artisan could have selected for further investigation).

*Rolls-Royce*, at 1107, emphasis added.

This case is like that in *Rolls-Royce* in that there are countless possible theoretical modifications of the prior art with no teaching that any one modification should be selected.

Moreover, in *Procter & Gamble Co. v. Teva Pharmaceuticals USA, Inc.* (Fed. Cir. 2009), the Federal Circuit articulated a 3 element test for a *prima facie* case of obviousness based on structural similarity of a lead compound to a claimed compound as requiring: (1) a preliminary finding that one of ordinary skill...would have selected [the prior art compound] as a lead compound; (2) a person of ordinary skill must have reason to attempt to make the claimed compound by modifying the

lead compound; and (3) a reasonable expectation of success in making the claimed compound by modifying the lead compound.

There is no disclosure in Bock to select the specific compound of example 10 as a starting point, nor is there a suggestion that one should use this compound to arrive at the claimed invention. Additionally, there is no suggestion that the modification would provide a compound giving the properties of the claimed compounds with a reasonable expectation of success.

From the Office's own *2010 KSR Guidelines Update*, citing *Procter & Gamble*, even "where there was reason to select and modify the lead compound to obtain the claimed compound, but no reasonable expectation of success, the claimed compound would not have been obvious." 75 FR 53643, at 53652. Thus, Applicants submit that the claimed invention would not be obvious in view of Bock.

Withdrawal of this ground of rejection is requested.

The objection of claim 1 and other generic claims is obviated by amendment. Claims 1, 15-17, 20, 34, 42, 58-61, 64 and 66 have been amended to remove the expression "benzoxazinone-derived sulfonamide". Withdrawal of this objection is requested.

With respect to the withdrawn method claims, the Examiner is reminded that if, as in this case, Applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim should be rejoined (see MPEP §821.04). Applicants note that should the examined product claims be

found allowable, withdrawn process claims should be rejoined. An action to this effect is requested.

Applicants submit that the present application is ready for allowance. Early notice to this effect is requested.

Respectfully submitted,

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